

Application No. 10/087,204
Amendment dated June 11, 2007
After Allowance Under 37 C.F.R. 1.312

Docket No.: 69323/P004US/10511468

AMENDMENTS TO THE CLAIMS

1.-18. (Cancelled)

19. (Previously Presented) A method for creating a database comprising fingerprint and landmark pairs associated with content samples, the method comprising the steps of:
extracting a plurality of characteristics from a content sample;
transferring said plurality of characteristics to a server coupled with a database;
deriving fingerprint and landmark pairs from said characteristics, wherein landmarks from said fingerprint and landmark pairs are reproducible selected points in a segment of the content, and wherein fingerprints are values calculable from said characteristics of said content sample at their associated landmarks; and
storing said fingerprint and landmark pairs in said database.

20. (Previously Presented) The method of claim 19 further comprising the step of:
simultaneously transferring metadata used to identify said content sample when
transferring said plurality of characteristics.

21 (Previously Presented) The method of claim 20 further comprising the step of:
associating said metadata used to identify said content sample with said stored fingerprint and landmark pairs.

22. (Previously Presented) The method of claim 19 wherein said processing is executed by an updateable or replaceable algorithm.

23. (Previously Presented) The method of claim 19 further comprising the step of:
prior to extracting said characteristics, determining whether or not said database already contains landmark and fingerprint pairs associated with said content sample.

24. (Previously Presented) The method of claim 19 where said content comprises content stored on a compact disk or digital video disk.

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25. (Previously Presented) The method of claim 19 where said content comprises a streaming content.

26. (Previously Presented) The method of claim 19 where said content comprises a file stored on a user's computer.

27. (Previously Presented) The method of claim 19 wherein said processing said characteristics into fingerprint and landmark pairs comprises the steps of:
compiling a list of distinctive and reproducible points in time at which fingerprints should be calculated; and
calculating one or more fingerprints at one or more said distinctive and reproducible points in time.

28. (Previously Presented) The method of claim 19 wherein said characteristics are a member of the group comprising:
a frequency value of the strongest spectral peak in proximity to a landmark,
a plurality of frequency values of the strongest spectral peaks in proximity to a landmark,
LPC coefficients,
Cepstral Coefficients,
a single value that is a hashed function of multiple characteristics.

29. (Previously Presented) The method of claim 27 wherein said compiling a list of distinctive and reproducible points in time at which fingerprints should be calculated comprises calculating the instantaneous power at said points in time and selecting a power maxima within those points in time.

30. (Previously Presented) The method of claim 27 wherein said compiling a list of distinctive and reproducible points in time at which fingerprints should be calculated comprises calculating the absolute value of one or more spectral components at said points in time and finding the local maxima of said absolute value.

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31. (Previously Presented) The method of claim 19 wherein said extracting is accomplished using a data archiving service.

32. (Previously Presented) The method of claim 19 wherein said extracted characteristics are associated with metadata from a content file.

33. (Previously Presented) The method of claim 32 wherein said extracted characteristics are used to look up said metadata in a metadata database.

34. (Previously Presented) The method of claim 19 further comprising:
creating an index of fingerprint and landmark pairs associated with said content samples and sorting said index according to fingerprint.

35. (Currently Amended) An apparatus comprising a database of fingerprint and landmark pairs associated with content samples, said database comprising:
a plurality of stored fingerprint and landmark pairs, where said fingerprint and landmark pairs are constructed by:
extracting a plurality of characteristics from a content sample;
transferring said plurality of characteristics to a server coupled with a database; and
deriving fingerprint and landmark pairs from said characteristics, wherein landmarks from said fingerprint and landmark pairs are reproducible selected points in a segment of the content, and wherein fingerprints are values calculable from said characteristics of said content sample at their associated landmarks[;].

36. (Previously Presented) The apparatus of claim 35 where said database further comprises:
metadata used to identify said content sample associated with said stored fingerprint and landmark pairs.

37. (Previously Presented) The apparatus of claim 35 wherein said processing is executed by an updateable or replaceable algorithm.

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38. (Previously Presented) The apparatus of claim 35 where said fingerprint and landmark pairs are further constructed by:

prior to extracting said characteristics, determining whether or not said database already contains landmark and fingerprint pairs associated with said content sample.

39. (Previously Presented) The apparatus of claim 35 where said content comprises content stored on a compact disk or digital video disk.

40. (Previously Presented) The apparatus of claim 35 where said content comprises a streaming content.

41. (Previously Presented) The apparatus of claim 35 where said content comprises a file stored on a user's computer.

42. (Previously Presented) The apparatus of claim 35 wherein said processing said characteristics into fingerprint and landmark pairs comprises the steps of:

compiling a list of distinctive and reproducible points in time at which fingerprints should be calculated; and

calculating one or more fingerprints at one or more said distinctive and reproducible points in time.

43. (Previously Presented) The apparatus of claim 35 wherein said characteristics are a member of the group comprising:

a frequency value of the strongest spectral peak in proximity to a landmark,

a plurality of frequency values of the strongest spectral peaks in proximity to a landmark,

LPC coefficients,

Cepstral Coefficients,

a single value that is a hashed function of multiple characteristics.

44. (Previously Presented) The apparatus of claim 42 wherein said compiling a list of distinctive and reproducible points in time at which fingerprints should be calculated comprises

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calculating the instantaneous power at said points in time and selecting a power maxima within those points in time.

45. (Previously Presented) The apparatus of claim 42 wherein said compiling a list of distinctive and reproducible points in time at which fingerprints should be calculated comprises calculating the absolute value of one or more spectral components at said points in time and finding the local maxima of said absolute value.

46. (Previously Presented) The apparatus of claim 35 wherein said extracting is accomplished using a data archiving service.

47. (Previously Presented) The apparatus of claim 35 wherein said extracted characteristics are associated with metadata from a content file.

48. (Previously Presented) The apparatus of claim 47 wherein said extracted characteristics are used to look up said metadata in a metadata database.

49. (Previously Presented) The apparatus of claim 35 where said database further comprises:

an index of fingerprint and landmark pairs associated with said content samples, said index sorted according to fingerprint.

50. (Previously Presented) A method of creating a database of fingerprint and landmark pairs associated with an music sample comprising the steps of:

playing a music sample to be identified;

determining that the music sample is missing from said database;

extracting one or more of characteristics from the music sample, where said characteristics are common to distinctive and reproducible points in time within said music sample;

transferring said plurality of characteristics to a server coupled with a database;

deriving fingerprint and landmark pairs from said characteristics using an updateable or

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replaceable algorithm, wherein landmarks from said fingerprint and landmark pairs are reproducible selected points in a segment of the content, and wherein fingerprints are values calculable from said characteristics of said content sample at their associated landmarks; storing said fingerprint and landmark pairs in said database; and indexing said fingerprint and landmark pairs associated with said music samples, according to fingerprint.

51. (Previously Presented) The method of claim 50 further comprising, when fingerprint and landmark pairs associated with said music sample are already contained in the database;

determining whether or not said characteristics were processed with a most recent version of said updateable or replaceable algorithm;

updating said version of said updateable or replaceable algorithm, when it is determined that said characteristics were processed with an old version, and processing said characteristics with said most recent version of said algorithm.